

Amendments to the Claims

Claims 1-69. (Cancelled).

70. (New) A method of producing a protein of interest comprising:

introducing nucleic acid material into a plant host to form a transgenic plant, the nucleic acid material comprising a coding sequence which encodes the protein of interest operably linked to an inducible promoter, the inducible promoter being inducible by an environmental factor;

cultivating the transgenic plant under growth conditions where the environmental factor is controlled;

during the cultivating, exposing the transgenic plant to an amount of the environmental factor that both induces expression of the protein of interest in a portion of the plant and enhances growth in the portion of the plant;

harvesting the portion of the plant; and

collecting the protein from the harvested portion of the plant.

71. (New) The method of claim 70 wherein the protein of interest is produced at least two fold greater than would be utilizing an amount of the environmental factor available under open field agriculture conditions.

72. (New) The method of claim 70 wherein the environmental factor is light.

73. (New) The method of claim 70 wherein the environmental factor is light and wherein the amount is at least 18 hours of light per day.

74. (New) The method of claim 73 wherein the amount is at least 20 hours of light per day.

75. (New) The method of claim 73 wherein the amount is 24 hours of light per day.

76. (New) The method of claim 70 wherein the inducible promoter is light inducible, wherein the environmental factor is light, wherein the amount of the light is 24 hours per day, and wherein production of the protein of interest is at least 2 fold higher than under 12 hour per day light conditions.

77. (New) The method of claim 70 wherein the portion of the plant includes the foliage.

78. (New) The method of claim 70 wherein the plant host is a potato plant.

79. (New) The method of claim 70 wherein the plant host is a species of *Brassica*.

80. (New) The method of claim 70 wherein the plant host is a species of *Spinacia*.

81. (New) A method of producing a protein of interest in a potato plant, the method comprising:

introducing nucleic acid material into a potato plant host to form a transgenic potato plant, the nucleic acid material comprising a coding sequence which encodes the protein of interest operably linked to an inducible promoter, the inducible promoter being inducible by an environmental factor;

growing the transgenic potato plant under conditions where exposure to the environmental factor is controlled;

during the growing, exposing the transgenic potato to an amount of the environmental factor to induce expression of the protein of interest in the plant foliage;

harvesting the plant foliage; and

collecting the protein of interest from the plant foliage.

82. (New) The method of claim 81 wherein the environmental factor is light.

83. (New) The method of claim 81 wherein the promoter is from a Rubisco small subunit gene.

84. (New) The method of claim 81 wherein the transgenic potato plant produces between 0.2 kg and 5.0 kg of fresh weight vines per plant.